

U.S. Patent Application Serial No. **09/901,572**  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

**AMENDMENTS TO THE CLAIMS:**

Please amend claims 5, 9, 10, and 12-16, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claims 1- 3 (Canceled).**

**Claim 4 (Previously Presented):** A DNA molecule, whose sequence comprises:  
a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell,  
wherein said prokaryotic cell is Mycoplasma.

**Claim 5 (Currently amended):** A DNA molecule, whose sequence comprises:  
a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell,

U.S. Patent Application Serial No. 09/901,572

Amendment filed November 15, 2004

Reply to OA dated July 13, 2004

wherein said ~~DNA molecule derived from a prokaryotic cell is a DNA derived from Mycoplasma, and said portion of the genome includes having the DNA sequence according to SEQ ID. NO. 1 or SEQ ID NO. 2.~~

**Claims 6-8 (Canceled).**

**Claim 9 (Currently amended):** A fused DNA molecule, wherein a DNA encoding a signal sequence has been ligated to the N-terminal end of a DNA molecule,

wherein the sequence of said DNA molecule comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell

so that the fused DNA molecule may be expressed as a fusion protein,

wherein said ~~DNA molecule portion of the genome of~~ derived from a prokaryotic cell has a DNA sequence described in SEQ ID NO: 1 or 2 ~~derived from Mycoplasma~~, and said signal sequence is a signal sequence from the gB of Marek's disease virus or a signal sequence from the gG of Rabies virus.

U.S. Patent Application Serial No. **09/901,572**  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

**Claim 10 (Currently amended):** A recombinant virus that has integrated therein

- (1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of the DNA molecule in a eukaryotic cell, or
- (2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein.

**Claim 11 (Previously Presented):** The recombinant virus according to claim 10, wherein the alteration that prevents N-glycosylation is at least one of the following:

- (1) the alteration of the DNA sequence encoding asparagine (N) to a DNA sequence encoding an amino acid other than asparagine;
- (2) the alteration of the DNA sequence encoding any amino acid (X) other than proline to a DNA sequence encoding proline; and
- (3) the alteration of the DNA sequence encoding serine or threonine (B) to a DNA sequence encoding an amino acid other than serine or threonine.

U.S. Patent Application Serial No. 09/901,572  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

**Claim 12 (Currently amended):** A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein,

wherein ~~said portion of the genome of a prokaryotic cell is a DNA molecule derived from~~ Mycoplasma, and said portion of the genome includes having the DNA sequence according to SEQ ID. NO. 1 or SEQ ID NO. 2.

**Claim 13 (Currently amended):** A recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein.

U.S. Patent Application Serial No. **09/901,572**  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

**Claim 14 (Currently amended):** A recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein,

wherein said signal sequence is a signal sequence from the gB gene of Marek's disease virus or a signal sequence form the gG gene of Rabies virus.

**Claim 15 (Currently amended):** A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

U.S. Patent Application Serial No. 09/901,572

Amendment filed November 15, 2004

Reply to OA dated July 13, 2004

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a poxvirus or a herpesvirus.

**Claim 16 (Currently amended):** A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-

U.S. Patent Application Serial No. 09/901,572

Amendment filed November 15, 2004

Reply to OA dated July 13, 2004

terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a virus that infects avians.

**Claim 17 (Previously Presented):** A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs

U.S. Patent Application Serial No. 09/901,572  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is an avipoxvirus.

**Claim 18 (Previously Presented):** A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a Marek's disease virus type I, type II, or type III.

U.S. Patent Application Serial No. **09/901,572**  
Amendment filed November 15, 2004  
Reply to OA dated July 13, 2004

**Claim 19 (Canceled).**

**Claim 20 (Original):** A vaccine comprising the recombinant virus according to claim 10 or 13.